DERWENT-ACC-NO: 1997-433772 DERWENT-WEEK: 199740 COPYRIGHT 1999 DERWENT INFORMATION LTD

TITLE: Manufacture of electric heater - comprises stacking layers of conducting and insulating materials of specified compositions, fixing and applying insulating layer with binder

INVENTOR: CHEVORDAEV, V M

PATENT-ASSIGNEE: CHEVORDAEV V M [CHEVI]

PRIORITY-DATA: 1994RU-0027440 (July 19, 1994)

PATENT-FAMILY:

 PUB-NO
 PUB-DATE
 LANGUAGE
 PAGES
 MAIN-IPC

 RU 2074521 C1
 February 27, 1997
 N/A
 006
 H05B 003/28

APPLICATION-DATA:

 PUB-NO
 APPL-DESCRIPTOR
 APPL-NO
 APPL-DATE

 RU 2074521C1
 N/A
 1994RU-0027440
 July 19, 1994

INT-CL (IPC): H05B003/28

ABSTRACTED-PUB-NO: RU 2074521C

## BASIC-ABSTRACT:

An electric heater comprises: (i) a layer of insulating material made of fibreglass fabric 100-300 parts by weight (pts.wt.), 100 pts.wt. of liquid glass with hardening agent, 3.5-10.0 pts.wt. of zinc oxide and a filter, i.e. aluminium oxide 50-150 pts.wt.; and (ii) conducting materials made of copper threads or a conducting composite consisting of 100 pts.wt. of liquid glass, 3.5-10.0 pts.wt. of hardening agent and 50-150 pts.wt. of filler, 5-20 pts.wt. graphite and 0.1-5.0 pts.wt. earbon fibre, enclosed by the insulating materials. The components are added in turn to the liquid glass and are mixed for 3-20 minutes depending on the amount, the hardening agents are added directly after use and are mixed for 3-5 minutes, while the binder is applied onto the fibreglass fabric by a spatula to a thickness of 0.1-0.5 mm. The heating element in the form of a paste is manufactured using the same technology and is applied onto 1 of the layers of fibreglass fabric in the centre of the heating plate. 3-5 layers of fibreglass fabric are used. If copper threads are used they are applied depending on the power and dimensions of the heater.

Manufacture of electric heater

Forming of non-fuel, decorative, non-toxic heater

CHOSEN-DRAWING: Dwg.1 2

DERWENT-CLASS: L03 X25

CPI-CODES: L03-A; L03-A01B; L03-H04A;

EPI-CODES: X25-B01C:

DERWENT-ACC-NO: 1997-311643 DERWENT-WEEK: 199729 COPYRIGHT 1999 DERWENT INFORMATION LTD

TITLE: Two-layer <u>friction</u> bearing material - has base layer, e.g. of metal, and <u>friction</u> layer consisting of polyamide matrix with 3-40 volume<sup>0</sup> • PTFE

INVENTOR: DEINERT, J

PATENT-ASSIGNEE: GLYCO-METALL-WERKE GLYCO & CO BV [GLYC]

PRIORITY-DATA: 1995DE-1045425 (December 6, 1995)

PATENT-FAMILY:

 PUB-NO
 PUB-DATE
 LANGUAGE
 PAGES
 MAIN-IPC

 DE 19545425 A1
 June 12, 1997
 N/A
 006
 F16C 033/20

APPLICATION-DATA:

PUB-NO APPL-DESCRIPTOR APPL-NO APPL-DATE DE19545425A1 N/A 1995DE-1045425 December 6, 1995

INT-CL (IPC): F16C033.20 ABSTRACTED-PUB-NO: DE19545425A

## BASIC-ABSTRACT:

A two-layer <u>friction</u> bearing material (I) comprises (A) a plastic <u>friction</u> layer (1) with a polyamide matrix containing 3-40 vol.% PTFE; and (B) a base material.

Also claimed are processes for the production of (I).

Preferably layer (1) consists of a polyamide (PA) 11 or 12 matrix with 10-20 vol.% PTFE and no lead, optionally modified with additives such as calcium carbonate, mica, polyethylene, wax, mineral oil, synthetic oil, calcium fluoride, molybdenum sulphide, graphite, bronze powder and/or fibres, preferably with a total additive concentration of 2-40 wt%. Base (B) (material 2) consists of (B1) metal, preferably sub-eutectoid steel such as DIN 1624 steel, Grade St3 or St4, with a 10-25 mu protective layer (3) of PA 11 or PA 12 on the side opposite layer (1), or (B2) bronze, brass, aluminium or a not very reactive copper alloy, or (B3) a woven fabric (5), preferably made of carbon, glass, aramid or metal fibres.

USE - For the production of flange sleeves (claimed).

ADVANTAGE - A low-cost, temperature- and corrosion-resistant bearing material with better dry-running properties than prior-art materials, especially 3-layer composites. The high concentration of PTFE makes it possible to avoid the use of lead.

CHOSEN-DRAWING: Dwg.1/4

DERWENT-CLASS: A14 A23 A88 Q62

CPI-CODES: A04-E08B; A05-F01E2; A07-A04E; A09-A05; A12-H10;

-	3	"6001440"	USPAT; US-PGPUB;	2002/05/24 15:16
			LIS_PGPLIB:	
-	!		OD I OI OIX	
	ï		ЕРО; ЛРО;	
: :-			DERWENT;	
: :-			IBM_TDB	
. <del>-</del>	1399	(gradient gradual\$4) near8 heat near8 conduct\$7	USPAT;	2002/05/22 12:08
	1377	(gradient graduats4) nears nears conducts)	US-PGPUB:	
			EPO; JPO;	
1				-
			DERWENT;	
i	i		IBM_TDB	. 2002/05/22 12 05
	8	gradient near8 concentration near8 heat near8 conduct\$7	USPAT;	2002/05/22 12:07
			US-PGPUB;	
	į		ЕРО; ЈРО;	
			DERWENT;	!
1	i		IBM_TDB	
-	1	"4784893" and gradient	USPAT;	; 2002/01/23 19:32 i
	į		US-PGPUB;	
			ЕРО; ЛРО;	:
			DERWENT;	. !
			IBM_TDB	
	2026	gradient near8 (thermal\$4 heat) near8 conduct\$7		2002/01/24 09:43
-	2036	gradient hears (thermalist hear) hears conducts?	US-PGPUB;	2002/01/24 07:45
			EPO; JPO;	ı
!	i		DERWENT.	
	i		IBM_TDB	
-	209	(gradient near8 (thermal\$4 heat) near8 conduct\$7) and friction\$4	USPAT;	i 2002/01/24 09:36 ·
	i		US-PGPUB;	
			EPO; JPO;	!
			DERWENT;	
<u> </u>			IBM TDB	1
i .	3	("4700823" "1844218" "5858511").pn.	USPĀT;	2002/01/24 09:37
	5	(1700025 1011215 5050511 ), p. 10	US-PGPUB	
. !	17	(gradient near8 (thermal\$4 heat) near8 conduct\$7) same friction\$4	USPAT;	2002/01/24 09:34
· -	1 /	(gradient hears (thermaly hear) hears conductor) same metons t	US-PGPUB;	
			EPO; JPO;	
	İ		DERWENT,	
1			IBM TDB	
!	=0	4 1 4 0 (1 1041 t) 0 1 (07) 0 ( 4 (4 in	_	2002/01/24 09:39
į <b>-</b>	78	(gradient near8 (thermal\$4 heat) near8 conduct\$7) near8 (concentration	USPAT;	2002/01/24 09.39
1	!	density)	US-PGPUB;	
			EPO; JPO;	
			DERWENT.	
i			IBM_TDB	
-	10	((gradient near8 (thermal\$4 heat) near8 conduct\$7) near8 (concentration	USPAT;	2002/01/24 09:37
		density)) and friction\$4	US-PGPUB;	
1			EPO; JPO;	
	:		DERWENT;	! !
İ			IBM TDB	
	3	("4700823" "4844218" "5858511").pn.	USPĀT;	2002/01/24 09:37
	-' :	(4700025 1044210 5050511 ).pm.	US-PGPUB	
	10	(gradient near8 (thermal\$4 heat) near8 conduct\$7) near8 concentration	USPAT;	2002/01/24 09:39
-	19	(gradient hears (thermals+ hear) hears conducts/) hears concentration	US-PGPUB;	. 2002/01/27 07.77
				1
	i		EPO; JPO;	:
•			DERWENT;	
			IBM_TDB	
-	19	gradient near8 (thermal\$4 heat) near8 (conduct\$7 disspat\$5) near8	USPAT,	2002/01/24 09:46
i	:	concentration	US-PGPUB;	
			EPO; JPO;	
i			DERWENT:	
1	!		IBM_TDB	

:	0	(gradient near8 (thermal\$4 heat) near8 (conduct\$7 disspat\$5) near8 concentration) not ((gradient near8 (thermal\$4 heat) near8 conduct\$7)	USPAT; US-PGPUB;	2002/01/24 09:46
1		near8 concentration )	ЕРО; ЛРО;	
	1		DERWENT:	
ī		H127471/AH	IBM_TDB USPAT;	2002/05/22 11:59
-	4	"1374710"	US-PGPUB;	2002103122 11.37
			EPO; JPO;	
			DERWENT;	
			IBM_TDB	
i -	0		USPAT;	2002/05/22 12:11
		conduct\$7 near8 fib\$1r\$4	US-PGPUB;	1
			EPO; JPO;	!
		:	, DERWENT;	
	•	(6 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	; IBM_TDB ; USPAT;	2002/05/22 12:15
-	3	((gradient gradually varying) near8 concentration) same (heat near4 conduct\$7 near4 (fib\$1r\$4 element))	US-PGPUB;	2002/03/22 12:13
		conducts/ near4 (nostris4 element))	EPO; JPO;	
			DERWENT;	
	1		IBM_TDB	!
-	26	((gradient gradually gradation varying) near8 concentration) and	USPAT,	2002/05/22 12:25
		(friction near6 (material lining)) and (heat near4 conduct\$7)	US-PGPUB.	
	!		EPO; JPO;	
	1		DERWENT;	
1			IBM_TDB	2002/05/22 12:28
-	11	((gradient gradually gradation varying) near8 concentration) and	USPAT; US-PGPUB;	2002/03/22 12:26 
		(friction near8 heat near8 (transfer\$5 conduct\$7))	ЕРО; ЛРО;	'
	İ		DERWENT;	i ,
1			IBM_TDB	:
!	67	((gradient gradually gradation varying) near8 (ratio rate density	USPĀT;	2002/05/22 12:55
		concentration)) and (friction near8 heat near8 (transfer\$5 conduct\$7))	US-PGPUB;	:
	•		EPO; JPO;	
			DERWENT;	
1	_		IBM_TDB	2002/05/22 12:47
-	0	"4784893" and friction\$4	USPAT;	2002/05/22 12:47
	:		US-PGPUB; EPO; JPO;	:
			DERWENT,	
			IBM TDB	
-	24400	(friction near4 (lining material)).ab.	USPĀT;	2002/05/22 12:49
† 	l İ		US-PGPUB;	
			EPO; JPO;	:
			DERWENT;	
•	210	(2) (2) (4) (1) (4) (1) (4) (1) (4) (1) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	IBM_TDB USPAT;	2002/05/22 12:54
-	268	(friction near4 (lining material)) and (fib\$1r\$6 same conduct\$6 same	US-PGPUB;	2002/03/22 12:34
•	•	heat)	EPO; JPO;	
			DERWENT,	
			IBM TDB	
· _	77	(friction near4 (lining material)) same (fib\$1r\$6 same conduct\$6 same	USPĀT;	2002/05/22 12:56
		heat)	US-PGPUB;	!
			EPO; JPO;	:
			DERWENT.	
1			IBM_TDB	2002/05/22 12:05
-	4577	((gradient gradually gradation varying direction orient\$7) near8 (fiber	USPAT; US-PGPUB;	2002/05/22 13:05
		fibre)) and (heat near8 (transfer\$5 conduct\$7))	EPO; JPO;	
	*		DERWENT.	
	i	!	IBM_TDB	
·		<u> </u>		* * * * * * * * * * * * * * * * * * * *

	782	((gradient gradually gradation varying direction orient\$7) near8 (fiber fibre)) same (heat near8 (transfer\$5 conduct\$7))	USPAT, US-PGPUB;	2002/05/22 13:05
		· · 	EPO; JPO; DERWENT; IBM_TDB	
-	: 66	(gradient gradually gradation varying) same (direction orient\$7) same (fiber fibre) same (heat near8 (transfer\$5 conduct\$7))	USPAT; US-PGPUB; EPO; JPO;	2002/05/22 14:33
· •	114	(gradient gradually gradation varying) same (concentration amount density) same (fiber fibre) same (heat near8 (transfer\$5 conduct\$7))	DERWENT; IBM_TDB USPAT; US-PGPUB; EPO; JPO;	2002/05/22 16:01
			DERWENT, IBM_TDB	2002/05/22 14:45
- - ·	13197	1993-269706.NRAN. (fiber fibre) same (heat near8 (transfer\$5 conduct\$7 dissipat\$5))	DERWENT USPAT; US-PGPUB; EPO; JPO;	2002/05/22 14:45   2002/05/22 15:57
-	25	( (fiber fibre) same (heat near8 (transfer\$5 conduct\$7 dissipat\$5)) ) same (hot near3 side)	DERWENT; IBM_TDB USPAT; US-PGPUB;	2002/05/22 15:58
			EPO; JPO; DERWENT; IBM_TDB	
-	! 4	(hot near2 side) same (concentration amount density) same (fiber fibre) same (heat near8 (transfer\$5 conduct\$7 dissipat\$5))	USPAT; US-PGPUB; EPO; JPO; DERWENT;	± 2002/05/22 16:09 ±
-	26	"5288537"	IBM_TDB USPAT; US-PGPUB; EPO; JPO;	2002/05/22 16:10
-	482	(428/120,64.1 192/12r 188/251r).ccls.	DERWENT; IBM_TDB USPAT; US-PGPUB; EPO; JPO;	2002/05/22 16:56
-	53	((428/120,64.1 192/12r 188/251r).ccls.) and ((heat thermal\$5) near6 (conduct\$9 transfer\$5 dissipat\$9))	DERWENT; IBM_TDB USPAT; US-PGPUB; EPO; JPO; DERWENT;	2002/05/22 17:01
  - 	6	(copper near3 thread) same (carbon near3 (fiber fibre))	IBM_TDB USPAT; US-PGPUB; EPO; JPO;	2002/05/24 15:23
-	320	copper same (woven weaving weave) same (carbon near3 (fiber fibre))	DERWENT; IBM_TDB USPAT; US-PGPUB; EPO; JPO;	2002/05/24 15:24
:	159	copper with (woven weaving weave) with (carbon near3 (fiber fibre))	DERWENT; IBM_TDB USPAT; US-PGPUB; EPO; JPO;	2002/05/24 15:25
L	: :	· · · · · · · · · · · · · · · · · · ·	DERWENT; IBM_TDB	<u> </u>

1.2		copper adj thread with (woven weaving weave) with (carbon near3 (fiber fibre))	USPAT; US-PGPUB;	2002/05/24 15:26
		(not note))	ЕРО; ЛРО;	
	4		DERWENT:	
		•	IBM_TDB	
-	. 1	copper adj thread same (woven weaving weave) same (carbon near3	USPAT;	2002/05/24 15:40
i		(fiber fibre))	US-PGPUB,	
	:		ЕРО, ЈРО,	
:		!	DERWENT;	
	i .		IBM_TDB	
: -	662		USPAT;	2002/05/24 15:54
	į	(clutch\$5 brake friction\$5)	US-PGPUB;	
			EPO; JPO:	
			DERWENT.	
			IBM_TDB	2002/05/24 15:44
-	184	((woven weaving weave) and aramid\$4 and carbon and (fiber fibre) and	USPAT;	2002/05/24 15:44
		' (clutch\$5 brake friction\$5)) and copper	US-PGPUB; EPO; JPO;	
		i	DERWENT;	
		:	IBM TDB	1
ı	164	(( (woven weaving weave) and aramid\$4 and carbon and (fiber fibre)	USPAT;	2002/05/24 15:49
-	104	and (clutch\$5 brake friction\$5)) and copper) and heat	US-PGPUB;	2002/03/21 13:17
	İ	and (crutches) trake metions )) and copper) and near	EPO; JPO;	
!	i		DERWENT;	 
i			IBM_TDB	
!	72	(( (woven weaving weave) and aramid\$4 and carbon and (fiber fibre)	USPAT,	2002/05/24 15:51
-	'-	and (clutch\$5 brake friction\$5)) and copper) and ((thermal heat) near6	US-PGPUB;	
!	:	(conductiv\$8 transfer\$8))	ЕРО; ЛРО;	1
1		(	DERWENT,	
1			IBM_TDB	
-	126	((woven weaving weave) same aramid\$4 same carbon same (fiber	USPAT;	2002/05/24 16:03
:		fibre)) and (clutch\$5 brake friction\$5)	US-PGPUB;	
,			EPO; JPO;	
'			DERWENT:	
i		·	IBM_TDB	0000005001055
-	6	((woven weaving weave) same aramid\$4 same carbon same (fiber fibre)	USPAT;	2002/05/24 15:57
		same copper) and (clutch\$5 brake friction\$5)	US-PGPUB;	'
:			EPO; JPO;	
İ			DERWENT,	
1		1007 211642 ND AN	IBM_TDB DERWENT	2002/05/24 16:01
-	i I	1997-311643.NRAN. (((woven weaving weave) same aramid\$4 same carbon same (fiber	USPAT;	2002/05/24 16:06
i -	41	fibre)) and (clutch\$5 brake friction\$5)) and copper	US-PGPUB;	2002/03/21 10:00
		Hore)) and (clutch\$5 brake friction\$5)) and copper	EPO, JPO,	1
			DERWENT;	
			IBM TDB	'
_	35	((((woven weaving weave) same aramid\$4 same carbon same (fiber	USPAT;	2002/05/24 16:06
! -	33	fibre)) and (clutch\$5 brake friction\$5)) and copper) not (((woven	US-PGPUB:	•
	İ	weaving weave) same aramid\$4 same carbon same (fiber libre) same	EPO; JPO;	
		copper) and (clutch\$5 brake friction\$5))	DERWENT:	
	!	1	IBM_TDB	